

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

BENCHMARK ELECTRONICS, INC.,)	
and BENCHMARK ELECTRONICS DE)	
MEXICO, S. DE R.L. DE C.V.,)	
)	
Plaintiffs,)	
)	
v.)	1:16CV529
)	
CREE, INC.,)	
)	
Defendant.)	

MEMORANDUM OPINION AND ORDER

OSTEEN, JR., District Judge

Benchmark Electronics, Inc., and Benchmark Electronics de Mexico, S. de R.L. de C.V. (collectively, "Benchmark") filed this action seeking recovery from Cree, Inc. ("Cree") for money allegedly owed in connection with installing Cree's lightbulbs into various products. (Doc. 1.) Cree counterclaimed for recovery, or offset, for component parts it contends Benchmark either damaged during the manufacturing process or has failed to return. (Doc. 8.)

The parties filed cross motions for summary judgment, and Chief Judge Thomas D. Schroeder granted in part and denied in part each of the parties' motions in a Memorandum Opinion and Order signed January 18, 2018. Benchmark Elecs., Inc. v. Cree, Inc., 1:16-cv-529, 2018 WL 472819, at *14 (M.D.N.C. Jan. 18,

2018). Summary judgment was granted in favor of Benchmark on its breach of contract claim, and Benchmark's unjust enrichment claim was dismissed. Id. at *9, *14. It was ordered that Benchmark recover from Cree "(1) \$587,229.06 in unpaid invoices plus interest; (2) \$286,371.44 for excess and obsolete components plus interest; and (3) \$457,105.38 for excess amounts paid for consigned components plus interest, with interest on these sums accruing from the date the complaint was filed, May 25, 2016." Id. at *14. Summary judgment was also granted in favor of Benchmark on Cree's claim under North Carolina's Unfair and Deceptive Trade Practices Act and granted in part in favor of Benchmark on Cree's conversion claim. Id.

The parties submitted pre-trial briefs and proposed findings of fact and conclusions of law. (Docs. 40-43.) On January 24, 2018, Cree's remaining counterclaims proceeded to a bench trial: breach of contract, breach of the covenant of good faith and fair dealing, unjust enrichment (in the alternative), and conversion as to a subset of the lightbulbs. Cree presented one live witness: David James Power, a senior director of engineering at Cree in the lighting division. Cree also presented one witness by deposition: Douglas Ray Stevens, then-

director of operations for consumer lighting for Cree.¹ Benchmark presented one live witness: Calvin Lane Clemons, group president of Benchmark during the dispute.

Cree seeks to recover \$2,793,747.50, which it contends represents the cost of (1) 1,607,518 XT-E LED bulbs and 4,394,757 XB-G LED bulbs Benchmark allegedly scrapped in excess of the parties' alleged half a percent scrap allowance, and (2) 395,022 XT-E LEDs Benchmark allegedly retained following the conclusion of the parties' relationship. (Cree's Answer & Countercls. (Doc. 8) ¶¶ 42, 50, 57-64.)² Cree seeks \$0.5684 for each XT-E LED bulb and \$0.3767 for each XB-G LED bulb. (Id. ¶¶ 55-56.)

At the close of Cree's case-in-chief, Benchmark moved for judgment pursuant to Rule 52(c) of the Federal Rules of Civil Procedure, on the grounds that Cree had failed to show by a preponderance of the evidence that a half a percent contractual agreement existed as to scrap rate; that Cree had failed to

¹ The parties consented to a de bene esse deposition of Stevens, which took place on January 4, 2018. A hard copy of this deposition was provided to the court on January 24, 2018.

² Cree originally sought "not less than \$2,868,921" in its counterclaim, including \$299,703 for alleged conversion of 395,022 XT-E LEDs and 199,558 XB-G LEDs. (Cree's Answer & Countercls. (Doc. 8) ¶¶ 50, 64, 84.) As summary judgment was entered against Cree as to the XB-G LEDs, the dollar amount Cree seeks has been adjusted to remove the proposed value of this claim.

prove its damages to a reasonable degree of certainty, specifically as to Cree's failure to quantify the amount of LED scrap "forgiven" in excess of the alleged half a percent rate; and that Cree had failed to prove its conversion claim. This court took the motion under advisement. At the close of evidence, Benchmark renewed its motion for judgment on partial findings and Cree also moved for judgment on partial findings.

The case is now ripe for decision, and this court issues the following Findings of Fact and Conclusions of Law pursuant to Rule 52(a) of the Federal Rules of Civil Procedure. For the reasons set forth herein, this court finds that judgment should be entered in favor of Benchmark and Cree's claims should be dismissed with prejudice.

I. FINDINGS OF FACT

This court enters the following findings of fact based on an evaluation of all of the evidence in the record, including the credibility of witnesses, and the inferences that the court has found reasonable to be drawn therefrom.³

1. Cree, Inc., is a North Carolina corporation with its principal place of business in Durham, North Carolina. Cree is

³ To the extent any findings of fact constitute conclusions of law, or any conclusions of law constitute findings of fact, they are adopted as such.

an original equipment manufacturer of light-emitting diode ("LED") lamps and components used in the manufacture of lighting products.

2. Benchmark Electronics, Inc., is a contract manufacturer and Texas corporation with its principal place of business in Angleton, Texas. Benchmark Electronics de Mexico, S. de R.L. de C.V. is a Mexico corporation and wholly-owned subsidiary of Benchmark Electronics, Inc.

3. The "Bengal Project" is a Cree line of finished lamp products. One component of the Bengal Project is an LED board, which is a metal board that is then mounted with ten or twenty LED bulbs. The LED board plus components (that is, plus the installed LEDs) is called a printed circuit board assembly ("PCBA").⁴

4. On June 5, 2012, Cree e-mailed a Request for Quote ("RFQ") to Benchmark seeking an estimate for producing PCBAs. (Cree Ex. 4.)⁵ The e-mail included a line labeled, "Yield," followed by a bullet point "LED Board – 99.9%." The RFQ does not specify a maximum allowable rate of scrap or rate of loss or

⁴ Benchmark also manufactured driver boards, another component of the Bengal Project, for Cree. The driver boards are not part of this dispute.

⁵ All exhibits were admitted during the trial in hard copy form, with the exception of certain electronic exhibits that were provided on thumb drives.

destruction for consigned LED bulbs. (Cree Ex. 4; Clemons Test. Jan 25, 2018; Power Test. Jan 25, 2018.)⁶

5. "Scrap" is waste generated during the manufacturing process. "Attrition" is part of scrap; that is, attrition means components that are not placed correctly or are damaged during rework or otherwise rendered unusable. (Stevens Dep. 33:23-34:21.) Cree representatives also used the term "attrition" at times in a way that did not refer to scrap at all. For example, in creating particular LED combinations, attrition referred to extra usable LEDs rather than unusable LEDs. (Cree Ex. 20; Power Test. Jan. 24, 2018.)

6. "Yield" measures how much of something is produced from what is inputted and is a term that can be used to measure several different processes throughout the manufacturing process. The term can refer to multiple measures, for example: first-pass, second-pass, first-pass after rework. (Stevens Dep. 39:2-40:1.)

⁶ Stevens asserted in his deposition that the scrap rate throughout Benchmark's entire manufacturing process would have to be lower than a tenth of a percent in order to achieve the 99.9% yield listed in the RFQ. (See Stevens Dep. 46:8-16.) Along those lines, 100% yield would generate 0% scrap. This view is contradicted by Power's testimony, (see Power Test. Jan. 25, 2018), and by Stevens' own testimony that yield and scrap are "not directly tied to each other," (see Stevens Dep. 167:4-20).

7. "Rework" can have at least two meanings: (1) adjusting a good during various stages of the production process so that it passes through all the manufacturer's various testing states and (2) returning goods that have been shipped from the contract manufacturer to the customer back to the contract manufacturer to fix some problem. (Stevens Dep. 30:10-23.) Rework produces at least some scrap.

8. On June 12, 2012, Benchmark responded to the RFQ for the LED board, providing a per-unit price for completed LED boards. (Cree Ex. 7.) Benchmark used an internal quote model to develop pricing for Cree that included a zero cost for the LEDs. (See Benchmark Ex. 135, Tab LEA0635 Costed BOM (spreadsheet located on thumb drive, Benchmark Ex. 214); Clemons Test. Jan. 25, 2018.) Benchmark's proposal included a line item for "Scrap (and Other MOH)," which calculated the cost that Benchmark would charge Cree for scrapped components as well as the cost of material overhead ("MOH").⁷ Benchmark used a "[v]alue of \$0.15 per Cree consigned LED . . . for MOH calculations on the LED Board." (Cree Ex. 7 at 12, 14.) Cree had communicated to Benchmark a "high volume price" of \$0.15 per LED. (Cree Ex. 6.)

⁷ MOH is the cost "associated with the ordering, receiving, inspection, and kitting of the LED's [sic] required for production." (Cree Ex. 7 at 14; see also Stevens Dep. 55:21-56:2.)

9. Cree awarded the Bengal Project to Benchmark.

10. In August 2012, Cree reduced the value per LED from \$0.15 each to \$0.10 each, with an "extended" cost of zero. (See Benchmark Ex. 8; Cree Ex. 124 (describing the value as an "inventory value").) This price factored into Benchmark's Bill of Materials ("BOM")⁸ to determine how much Benchmark would charge Cree for each completed assembly.

11. In April 2013, Clemons e-mailed Stevens:

I need to model the target LED attrition cost for my P&L analysis. At one time, I thought each LED was \$0.10, but now I am seeing freight value invoices in the \$0.75-\$0.83 range if I am reading correctly. Please advise what unit cost I should plug in for each LED.

(Cree Ex. 124.) Stevens replied: "LED cost should remain \$0.10 each for inventory value." (Id.) Aside from the initial \$0.15 that was adjusted in August 2012, there is no evidence of a costed BOM showing an LED price in excess of \$0.10. This communication between Stevens and Clemons illustrates certain diverging understandings the parties held during the course of their relationship. Stevens seemed to understand the ten cent cost of the LEDs to have been a minimal charge by Benchmark to Cree for handling of the LEDs. Benchmark seems to have understood the ten cent charge to have been Cree's cost or value

⁸ The BOM is analogous to a list of ingredients in a recipe for making the finished good, in this case, a light bulb.

of the LEDs. Nevertheless, because Benchmark never paid Cree for consigned LEDS, and Cree never sought payment or a credit toward the ten cent LED cost, Benchmark's unilateral misunderstanding does not change the agreement as understood by Cree and reflected in the parties' performance: the \$0.10 was a fee Cree approved for Benchmark's handling and storage of the LEDs (an "inventory value").

12. At some point before the start of production, at least one meeting to discuss the Bengal Project was held in Guadalajara, Mexico, between senior members of the Benchmark and Cree teams. (See Stevens Dep. 61:21-62:12; Clemons Test. Jan. 25, 2018; Power Test. Jan. 24, 2018.) Both of Cree's witnesses contended a half a percent scrap rate was discussed at this meeting, and Stevens also contended that Benchmark representatives agreed it could achieve a half a percent scrap rate. (See Stevens Dep. 61:21-62:4, 63:4-22; Power Test. Jan. 24, 2018.) Benchmark's witness denies discussion of a mandatory scrap rate above which Benchmark would be responsible for reimbursing Cree. (Clemons Test. Jan. 25, 2018.) No documentation from this meeting has been introduced.

13. The parties and their legal teams exchanged drafts of a Contract Manufacturing Agreement ("CMA") (also known as a Master Supply Agreement or "MSA"). Two drafts of the CMA were

introduced, both sent from Benchmark to Cree: one from June 29, 2012, (Cree Ex. 183), and one from September 20, 2012, (Benchmark Ex. 52). Benchmark's September 2012 draft includes the CMA and four exhibits, including an Exhibit B Materials Consignment Agreement. (Benchmark Ex. 52.) Paragraph 20 of the draft CMA states:

Notwithstanding anything herein to the contrary, Cree shall retain all right, title and ownership to the Consigned Materials at all times. Cree will bear the risk of loss to the Consigned Materials, provided, however that Contract Manufacturer shall be responsible for and shall indemnify, defend, and hold Cree harmless from and against any loss, damage or theft of Consigned Materials due to Contract Manufacturer's negligence, willful misconduct, or failure to perform its obligations.

(Id. ¶ 20.1.) Exhibit B, labeled "NOTE: need to review[,]"" allocates the risk of loss between the parties differently for materials in the contract manufacturer's possession:

Contract Manufacturer shall be responsible for any loss, damage or theft of Consigned Materials for any reason while in Contract Manufacturer's possession; provided that Contract Manufacturer shall not be responsible for actual defective or non-conforming Consigned Materials if Contract Manufacturer accounts to Cree for such Consigned Materials and follows Cree's instructions for return or disposal thereof.

(Id. Ex. B ¶ 4.) Consigned materials means:

materials that are owned by Cree and consigned by Cree to Contract Manufacturer pursuant to the Materials Consignment Agreement, which materials are to only be incorporated into Products and/or packaging of such Products as part of the Contract Manufacturing

Services performed by the Contract Manufacturer or otherwise used by the Contract Manufacturer in connection with the Services.

(Benchmark Ex. 52 ¶ 1.6.) The draft states that the contract manufacturer is responsible for maintaining complete and accurate records of consigned materials. (Id. Ex. B ¶ 2(e).) The drafts do not include a maximum allowable scrap rate. (See Benchmark Ex. 52; Cree Ex. 183.)

14. In spite of the draft CMAs and some limited discussion, a CMA was never signed, (see Stevens Dep. 67:23-69:3, 187:13-188:3; Clemons Test. Jan. 25, 2018), nor was there any agreement reached between the parties with respect to the provisions of the CMA. Instead, the parties began their manufacturing venture based on their oral discussions. On September 13, 2012, only a week before Benchmark's last known draft CMA was sent to Cree, Stevens informed Benchmark that "I met with legal yesterday and reviewed the objectives & timeline. Cree [employs] an outside counsel for MSA type agreements, as such, the plan is to met [sic] with them today. After that I am sure there will be a number of sessions and red-lined documents moving back & forth between us." (Benchmark Ex. 51.) The draft CMAs are of no significant factual relevance except as described

hereafter with respect to practices or industry standards.⁹ As Stevens admitted, although generally a Cree agreement will "cover the same areas," each agreement "will be uniquely revised in small ways depending on the contract manufacturer's desire." (See Stevens Dep. 69:13-22.)

15. In or about November 2012, Benchmark began manufacturing driver boards and LED boards for Cree. (See id. at 63:23-64:5; Power Test. Jan. 25, 2018.)

16. In December 2012, Benchmark and Cree executed a Letter of Authorization ("LOA"). (Cree Ex. 182.) This written agreement "gave Benchmark authorization and Cree responsibility for materials purchased by Benchmark to support [Cree's] forecasts." (Stevens Dep. 65:9-66:9.) The LOA stated that "[i]f the parties do not execute an [sic] CMA within one (1) year of the date of final execution of this LOA, then Benchmark has the right to invoice Customer for all Components purchased pursuant to this LOA, whether or not they are Excess and/or Obsolete Components." (Cree Ex. 182.) The LOA stated that "[t]he parties are currently in the process of discussing and negotiating a Contract Manufacturing Agreement ("CMA") that will supersede this Letter

⁹ Typical or standard industry practices with regard to scrap rates and yield targets are a disputed subject in this litigation and are addressed as relevant in the court's legal analysis.

of Authorization ("LOA")." (Id.) Nothing in the LOA relates to consigned LEDs, and the LOA does not provide a maximum scrap rate. (See Stevens Dep. 66:22-67:1; Power Test. Jan. 26, 2018.) The LOA is the only formal written agreement between the parties and was renewed "a couple of times." (See Stevens Dep. 67:2-8.)

17. Cree provided LED bulbs to Benchmark under a consignment arrangement. (See id. at 57:25-58:3.) As the parties used the term, consignment simply meant that title to the LEDs never passed from Cree to Benchmark.¹⁰ Under the arrangement,

¹⁰ A "consignment" under North Carolina law ordinarily creates certain duties between parties. See Wilson v. Burch Farms, Inc., 176 N.C. App. 629, 641, 627 S.E.2d 249, 259 (2006) ("A consignment exists where [a] consignor leaves his property with a consignee who is 'substantially engaged in selling the goods of others,' and will work to sell the goods on behalf of the consignor. . . . While the consignee may or may not receive the specific property of the consignment back, depending on if it is sold, [North Carolina courts have] recognized that a consignment creates a bailment between the parties.").

Here, Benchmark did not receive LEDs for the purpose of a future sale on Cree's behalf. Rather, Cree authorized Benchmark to order LEDs and other components to process into completed assemblies and return to Cree, and Cree agreed to pay Benchmark for these components. (See Cree Ex. 182.) A \$0.10 charge per LED was contemplated by the parties. (See Benchmark Ex. 8; Cree Ex. 124.) While the parties' understanding of the meaning of this \$0.10 charge seemed to diverge somewhat, see supra, the express agreement and communications between the parties show that neither party intended this relationship to be one of "consignment" as described above.

This conclusion is bolstered by Article 9 of the Uniform Commercial Code ("UCC"), which governs secured transactions and defines consignment as "a transaction, regardless of its form, in which a person delivers goods to a merchant for the purpose

Cree supplied LEDs "at zero cost to Benchmark." (See id. at 58:4-59:3.) Cree produced the LEDs and transferred them to Benchmark's Mexico facility at Cree's cost, which meant the LEDs were "free on board with Cree bearing all the costs." (See id. at 59:4-14.) Cree preferred this arrangement because (1) Cree did not want to share with a third party its cost to make LEDs, information Cree considered proprietary, and (2) consignment removed the burden on Benchmark of having to manage a cash flow to get the LEDs, which Cree hoped would optimize the price Cree paid for the finished product. (Power Test. Jan. 24, 2018.) Stevens testified that "once we established that we were going to provide consigned materials at no cost, [Clemons] felt free to give a much more aggressive quote to Cree because he . . . wasn't going to have a financial carrying cost for buying LEDs." (Stevens Dep. 61:15-19.)

of sale[,]" subject to several exceptions not relevant here. N.C. Gen. Stat. § 25-9-102(a)(20) (emphasis added). When the party receiving goods processes them into a finished product, whether the goods received are "for the purpose of sale" depends on the ultimate destination of the goods. Courts have drawn a distinction between component goods that are processed and "returned to the owner and not sold to a third person" and those that are "processed and then sold by the processor to persons to be selected by him." See In re Georgetown Steel Co., LLC, 318 B.R. 352, 357-58 (Bankr. D.S.C. 2004) (citing cases) (citation omitted). In the former case, as here, the transaction is not a "consignment" as contemplated by the UCC.

18. In April 2013, a Cree product engineer requested Benchmark to provide a weekly Fault Rate Analysis ("FRA") report and LED Scrap report. (Cree Ex. 185; Power Test. Jan. 24, 2018.) This request included two Microsoft Excel attachments: a document titled FRA report Benchmark and a document titled LED Scrap Benchmarck [sic]. The e-mail states that "[f]or any yield below 99.5%, we would need a 1st level paretos and a corrective action to be listed on the action log" (Cree Ex. 185.)

19. An FRA looks for deviations from an expected yield target and works to identify ways to put the yield back on track. (Power Test. Jan. 24, 2018.) The report's "Yields" tab included three sections with conditional formatting that turned the cells a certain color based on the percentage in the cell. (Cree Ex. 185, CREE_00146891 (spreadsheet located on thumb drive, Cree Ex. 212).) In weeks 18 through 21, a cell value of more than 0.98 resulted in green; a cell value greater than or equal to 0.9 resulted in yellow; a cell value less than 0.9 resulted in red; and a cell value of 0 resulted in black. In weeks 22 through 42, a cell value greater than or equal to 0.995 resulted in green; a cell value greater than or equal to 0.9 resulted in yellow, and a cell value less than 0.9999 resulted in red.

20. The LED Scrap report or "stoplight report" also used conditional formatting and calculated a total scrap percentage on a weekly basis. (Cree Ex. 185, CREE_00146892 (spreadsheet located on thumb drive, Cree Ex. 212).) Red indicated a significant departure from an expected target. (Power Test. Jan. 24, 2018.) Yellow indicated that the percentage was close to achieving the target. (Id.) Green indicated success in achieving the target. (Id.) A cell value less than or equal to 0.005 resulted in green; a cell value greater than 0.005 resulted in yellow, and a cell value greater than or equal to 0.015 resulted in red. (Cree Ex. 185, CREE_00146892 (spreadsheet located on thumb drive, Cree Ex. 212).) On the second tab of the stoplight report, several column labels described various types of LED scrap that was generated through the manufacturing process. For example, Column C described scrap generated from the surface mount assembly process, which was the technique used to place LEDs on the LED board. (Power Test. Jan. 24, 2018.) Column I includes a "% Waste Goal" of 0.500% for each week. (Cree Ex. 185, CREE_00146892 (spreadsheet located on thumb drive, Cree Ex. 212).)

21. It is unclear how often the FRA report and LED Scrap report were created and shared between the parties,¹¹ but this reporting makes sense in light of the manufacturing process Benchmark undertook for Cree. LED bulbs are small, roughly the size of a pencil eraser, and delivered on a tape, which is wound on a spool. The LED bulbs are situated on the tape in a single line roughly two inches apart. As part of Benchmark's manufacturing process, some form of picker removed a bulb or bulbs from the tape and placed them in a predetermined pattern on an LED board. A number of variables affected the amount of scrap bulbs generated in this process. These variables include the adhesiveness of the bulb to the tape, which could result in the bulb failing to be properly picked, or failure of the picker to successfully pick and place the bulb, and it appears from the evidence that both Cree and Benchmark were aware of the potential for the generation of scrap during the manufacturing process. (See, e.g., Cree Ex. 153; Benchmark Exs. 17, 18, 122.)

22. Cree was actively involved in working with Benchmark to address manufacturing issues that arose over the course of the relationship with respect to the LEDs. However, there was

¹¹ Two internal Cree emails showing evidence of similar types of meetings or reporting appear to have been reviewed with attachments during Stevens' deposition, (Cree's Exs. 186-87), but the court notes that only the emails and not the attached spreadsheets were submitted by Cree.

also some uncertainty as to who was at fault for generating scrap.¹² At certain times during the course of the relationship, Cree sent Benchmark non-conforming goods that caused Benchmark's reported scrap rate to be higher than half a percent. For example, in some instances, Cree may have been responsible as a result of changes to the packaging material used to hold the LEDs to the tape. (See, e.g., Benchmark Exs. 17-18 (noting that 3.5% of LEDs were not being picked and placed correctly in early 2013); Power Test. Jan. 25, 2018.) In some instances, Benchmark was responsible as a result of problems with picking and placement due to, for example, issues stemming from the temperature and humidity of Benchmark's manufacturing facility. (See, e.g., Cree Ex. 153; Power Test. Jan. 24, 2018.) Because the Bengal Project was a new product introduction, this court finds that Cree had certain goals with respect to scrap generation, but neither Cree nor Benchmark had sufficient experience with this particular project to know what may be

¹² It should be noted that the parties' definitions of scrap diverged somewhat. Cree representatives testified that scrap includes material that becomes unusable during the manufacturing process, but does not include non-conforming goods. (Stevens Dep. 29:13-30:4; Power Test. Jan. 24, 2018.) Benchmark's representative testified that scrap could be board level, where a whole finished good is unusable, or component level, where defective parts had to be replaced or components were otherwise rendered unusable during the manufacturing process. (Clemons Test. Jan. 25, 2018.) In light of this court's ultimate conclusion, the distinction is not consequential.

reasonable, nor, in reality what factors may have caused the generation of scrap or which company might be responsible for that scrap. Manufacturing issues arose throughout the relationship that affected scrap rates to varying degrees. (See, e.g., Benchmark Exs. 17-18; Benchmark Ex. 44 (introduction of a new LED height in September 2013); Benchmark Ex. 48 (discussing out-of-specification material during a July 2014 LED transition period); Benchmark Ex. 122 (discussing attrition due to various issues in early 2013); Cree Ex. 153; Power Test. Jan. 25, 2018.) Additionally, an LED transition in 2013 was "messier than expected" and required optimization with new tooling and software which increased scrap and rework for a period. (See Benchmark Ex. 34; Clemons Test. Jan. 25, 2018.)

23. It remains unclear how much scrap was due to Cree sending non-conforming goods and how much scrap was due to Benchmark's manufacturing processes. (See Stevens Dep. 261:24-262:9.) What is clear, and this court so finds, is that although there were times when Benchmark's scrap rate exceeded a half a percent, the subject was never raised as a breach of contract issue. Instead, the discussions were directed toward an effort to identify and resolve the issue.¹³

¹³ This court finds these facts suggestive that the scrap rate was a target rather than a contractual limit which would support a claim for breach of contract.

24. In May 2013, Benchmark provided Cree with an XT-E LED reconciliation. (Cree Ex. 39.) The XT-E LEDs were being reconciled because: one, Cree's finance department had tasked the team to start undertaking a monthly reconciliation of consigned materials, and two, the Bengal project was transitioning away from using XT-E LEDs. (See Stevens Dep. 107:7-108:7.)¹⁴ Benchmark's presentation to Cree included a table titled "Delta Brake [sic] down." (Cree Ex. 39.) This presentation, which was presented by Benchmark to Cree in a meeting, is the first appearance in the record of Benchmark using the term "delta" in its reporting to Cree. The delta breakdown included several line items relating to the XT-E program accounting for 1,742,087 XT-E LED bulbs that were sent to Benchmark and that, for various reasons relating to start-up and production issues, were not returned to Cree on a finished LED board. (See id.; Stevens Dep. 109:6-111:16; Clemons Test. Jan. 25, 2018.) Another table in the presentation shows the 1,742,087 delta number plus two other rows:

DELTA	6.01%	2,468,827
Attrition	2.00%	726,740
Delta	4.00%	1,742,087

¹⁴ Cree representatives offered conflicting testimony as to the reason for the XT-E reconciliation. (See Power Test. Jan. 24, 2018.) This court finds Stevens' testimony credible because Stevens was responsible for business and operational issues relating to the Bengal Project.

(Cree Ex. 39.) A 2% flat attrition figure was added, 726,740, for a final total "DELTA" of 2,468,827.

26. Cree representatives understood the issues in the delta breakdown to be closed items, that is, to be resolved as of the date of the email. (Stevens Dep. 111:17-23; Power Test. Jan. 24, 2018.) Benchmark's representative thought Cree understood and accepted the 1.7 million scrap XT-Es. (Clemons Test. Jan. 25, 2018.)

27. Around the May 2013 timeframe, the Bengal Project transitioned from XT-E LEDs to XB-E and XB-G LEDs.¹⁵

28. Starting in June 2013, Benchmark began providing Cree weekly LED inventory reconciliation reports. (See, e.g., Cree Ex. 209.) The first report, sent June 7, 2013, and internally dated 06-03-13, includes a delta of 1,591,671. The delta formula in the report is: total receipts of XT-E LEDs, minus on-hand, minus LEDs in WIP,¹⁶ minus shipments. (See Cree Ex. 209 (spreadsheet located on thumb drive, Cree Ex. 212); Stevens Dep. 119:8-15.)

¹⁵ XT-E LEDs are a different shape than XB-G and XB-E LEDs. XB-G and XB-E LEDs are identical from a product standpoint. (Power Test. Jan. 24, 2018.) Only XT-E and XB-G LEDs are at issue in this case.

¹⁶ "WIP" means materials that have been pulled from the warehouse and handed off to the production team but not yet processed into the finished good. (See Stevens Dep. 116:23-117:23.)

29. The term delta does not have a standard meaning in contract manufacturing. (See Stevens Dep. 108:22-24; Power Test. Jan. 24, 2018.)

30. Stevens testified that he was told this delta number represents the amount of LEDs that could not be accurately identified for this report. They could be -
- by Benchmark's definition to me, they could be received, but in a loading -- in a receiving location, but not dedicated to a warehouse yet, so thus not able to identify part number.

Or they could be inventory that had been pulled from the warehouse and was being staged for work, so they were WIP on a production floor. Or it could be completed work orders, inventory that was remaining that needed to be backflushed in the system to then be returned to the warehouse.

(Stevens Dep. 116:4-16.) Stevens did not understand delta in this context to mean scrap. (See id. at 117:24-118:5, 120:14-121:3.) Clemons contends that the use of delta to consist of rework, attrition, and scrap was defined in the XT-E LED reconciliation and carried forward to the weekly inventory reconciliation reports, where scrap in the XB-G and XB-E program accumulated for similar reasons as it had during the XT-E program. (Clemons Test. Jan. 26, 2018.) Clemons contends the delta value was intended to give Cree's finance team a clear view of maximum scrap exposure, where some amount of the delta number may represent useable LEDs that would be returned to the warehouse. (Id.) After evaluating the credibility of this

conflicting testimony, this court finds that the parties never had a mutual, or consistent, understanding of the information contained in the reports or the conclusions to be reached from the numbers provided. The parties simply failed to communicate effectively as to the information that was provided.

Furthermore, this court finds that Clemons intended Benchmark to provide accurate information to Cree, but his intent was undermined to some degree by what appear to have been lax record-keeping practices as to the LEDs by the Benchmark team within the manufacturing facility. On the other hand, this was a new project and relationship, and Cree did not effectively communicate its expectations to Benchmark. As a result, this court finds generally that disputes between the parties as to Benchmark's reporting did not arise from an intent by Benchmark to mislead Cree, but instead from a failure by the parties to clearly communicate during the business relationship.

31. From June 2013 to December 2014, Benchmark sent Cree LED inventory reconciliation reports, generally on a weekly

basis.¹⁷ Each report contained a field with a value labeled delta for "Current LED" (pertaining to the XT-E LEDs that were being phased out) and a field with a value labeled delta for "New LED" (pertaining to the XB-G and XB-E LEDs). (Benchmark Ex. 55.) The delta formula in these reports is the same as in Cree Ex. 209 except inverted: on hand plus LEDs in WIP plus shipments minus total receipts, resulting in a negative number.

32. Starting with the September 17, 2013, report, Benchmark reported an XT-E delta value of negative 1,607,518, which was consistently reported through the end of Benchmark's inventory reconciliation reporting. (Benchmark Ex. 55, CREE_00277824 (spreadsheet located on thumb drive, Benchmark Ex. 214).)

¹⁷ Benchmark and Cree "agreed to [a] weekly LED inventory report (like used in the LED reconciled process) to be published on Sunday." (Benchmark Ex. 41.) This report evolved into a monthly reconciliation. (See Stevens Dep. 251:18-24.) Stevens testified that the report discussed in Benchmark Ex. 41 and Cree Ex. 209 is not the same as the Ex. 55 reports. (See generally Stevens Dep. 246:18-254:17.) However, a comparison of the two finds them to be similar in format, except that the report in Cree Ex. 209 does not include WIP, and both include a delta number. At least one other Cree employee also requested inventory reconciliation data, (see Cree Ex. 13), although this employee was not copied on the weekly inventory reconciliation reports from Benchmark to Cree.

33. Benchmark's inventory reconciliation reports included at least two errors with respect to the "New LED" data.¹⁸ First, there was an error in the 08-26-13 report that caused delta to be a positive number. (Benchmark Ex. 55, CREE_00267997 (spreadsheet located on thumb drive, Benchmark Ex. 214); Clemons Test. Jan. 25, 2018.)¹⁹ The next week, delta returned to negative. (Benchmark Ex. 55, CREE_00268664 (spreadsheet located on thumb drive, Benchmark Ex. 214).) The delta formula is the same in both weeks' reports (On Hand + Total Used LEDs + WIP WO + WIP FG - Total Receipts). Second, Clemons testified that around August 2014, Benchmark returned approximately 900,000 LEDs to Cree, which erroneously recorded as a negative receipt. (Clemons Test. Jan. 26, 2018.) The error corresponds to the "Receipts" table in the weekly report and caused the total delta

¹⁸ Rather than an intentional misrepresentation on the part of Benchmark, this court finds that these errors are the result of lax accounting practices and a failure of both parties to communicate and reach a mutual understanding as to the items included in the report. At all times throughout the relationship, Cree knew how many LEDs were provided to Benchmark and how many LEDs were returned on completed boards. (See, e.g., Stevens Dep. 118:14-16 ("We understood what we shipped in. We understood what Benchmark shipped out.").)

¹⁹ Clemons did not prepare the reports himself and is not copied on the emails Benchmark sent to Cree providing the reports but testified that part of his management responsibility was watching the reports. (Clemons Test. Jan. 26, 2018.)

number to be misreported for several months until the error was discovered in the final LED reconciliation in early 2015. (Id.)

34. The delta value on the XB-G and XB-E side of the inventory reconciliation report also fluctuated, at times dramatically. For example, the February 2, 2014, report's delta was positive 1,101,414. (Benchmark Ex. 55, CREE_00311389 (spreadsheet located on thumb drive, Benchmark Ex. 214).) The next week, delta was negative 1,003,580. (Benchmark Ex. 55, CREE_00311715 (spreadsheet located on thumb drive, Benchmark Ex. 214).) The formula used to create delta was consistent across these two weeks.

35. In March 2014, a new table appeared in the LED inventory reconciliation reports titled Scrap, and later, Scrap History. (Benchmark Ex. 55, CREE_00319476 (spreadsheet located on thumb drive, Benchmark Ex. 214); Benchmark Ex. 55, CREE_00377860 (spreadsheet located on thumb drive, Benchmark Ex. 214).) Clemons testified that this table represented finished goods scrap. (Clemons Test. Jan, 26, 2018.) Each board was multiplied by the total number of LEDs on the board (either ten or twenty) to get the total number of scrapped LEDs for that segment of the waste. Cree representatives had conflicting understandings of the meaning of this table: Power understood these to be LED assemblies that had been scrapped, but Stevens

thought the table referred to LEDs scrapped for any reason, not just at the LED-assembly level. (See Power Test. Jan. 24, 2018; Stevens Dep. 222:1-223:17.)

36. The final inventory reconciliation report provided in the same reporting format from Benchmark to Cree was dated December 29, 2014, and contained a delta of negative 3,552,188. (Benchmark Ex. 55, CREE_00381646 (spreadsheet located on thumb drive, Benchmark Ex. 214).)

37. Benchmark showed ability to track exact numbers of LED waste to a certain extent, (see, e.g., Benchmark Ex. 38), but also used somewhat lax and clearly unusual methods of accounting for scrapped LEDs, (see, e.g., Cree Ex. 156). In one instance in February 2014, Benchmark's program manager notified Cree that Benchmark had two "huge bins" of LEDs that had been lost due to attrition, vacuumed, and suggested weighing the scrapped LEDs to determine how many there were. (Cree Ex. 156.) Clemons countered that Benchmark never weighed components for inventory purposes but rather the scrapped LEDs in the bins were simply cumulative scrap components that had generally been reported over time to Cree. (Clemons Test. Jan. 26, 2018.) However often this practice occurred, under these circumstances it reasonably caused Cree concern, but it appears there was still some uncertainty by both

parties as to how to proceed with and address scrap.²⁰ Benchmark also used rounded numbers even in the final LED reconciliation in 2015. (Cree Ex. 210.)²¹

38. The expense of LED scrap was discussed as well as measures to reduce the amount of LEDs scrapped and to achieve scrap rate targets, including a target of a half a percent. (See, e.g., Cree Ex. 124 ("Once the package issue is resolved Cree's [expectation] is the Attrition Rate will move below

²⁰ Regardless of whether there was uncertainty, it does not appear Cree communicated any concern as to a breach of contract, further suggesting any scrap rate was a target rather than a contractual provision.

²¹ Benchmark objected to Cree Ex. 210's introduction during Stevens' deposition as an incomplete exhibit. Cree Ex. 210 was introduced in its entirety at the close of Cree's case-in-chief without objection.

[0.5%][.]"); Cree Ex. 185; Power Test. Jan. 24, 2018; Stevens Dep. 84:25-85:22.)²²

39. Cree did not invoice Benchmark for LEDs scrapped in excess of a half a percent scrap rate. (See Stevens Dep. 156:9-157:18.) Cree contends that it forgave instances of scrap rates in excess of the alleged maximum allowable scrap rate in multiple instances. (Power Test. Jan. 25, 2018.) There is no evidence that Cree ever communicated to Benchmark that it was forgiving or waiving Benchmark's violation of a contractual obligation.

40. Cree decided to discontinue the relationship with Benchmark. As of January 2015, end-of-life volumes were established and production was ramping down. (See Stevens Dep. 218:14-24.) Although the exact dates are unclear, by May 2015,

²² This court has considered evidence to the contrary. For example, in an April 2013 email, Power wrote to Stevens he "had no discussions regarding target attrition." (Cree Ex. 26.) Power testified that this email merely referred to adjustments of preexisting standard target levels of a half a percent. (Power Test. Jan. 24, 2018.) Additionally, Cree from time to time optimized LED combinations and sent them to Benchmark to use in its manufacturing process. The combinations assumed "2% attrition." (Cree Exs. 19; 20; 175.) "Attrition" as used in this context did not mean waste; rather, it meant extra LEDs that would still be available to be consumed by Benchmark into a finished good. (Power Test. Jan. 24, 2018.) This court finds more persuasive other competent evidence in the record, including emails and the testimony from Benchmark's own representative, that shows a half a percent target or goal was communicated between Benchmark and Cree.

production had ended and Cree and Benchmark were working on reconciliations, "looking to have [Cree consigned inventory] either returned or shipped forward to the next contract manufacturer." (Stevens Dep. 125:1-7.)

41. On May 28, 2015, Stevens wrote to Benchmark's business unit director:

We thought that we understood the logic in the meeting concerning the LED accountability, but upon further study the following question arises:

If the number reported as total attrition is correct and cumulative, why/how can it decrease from one day to the next?

The report may not be acting as we believe.

(Benchmark Ex. 131; Cree Ex. 165.) Clemons emailed the employee separately:

I think we need to say that the Qty in the Warehouse could vary week to week based on the RTS Qty's...and that could account for the small fluctuations. Is that the only part of the report that could vary....or could the Receipt Qty also vary week to week if there were errors/reversals?

(Cree Ex. 164.) The Benchmark employee then replied to Stevens:

The delta quality would experience variations depending on how much material was pending to be returned to the warehouse at the moment the snapshot was taken from Baan.²³ The reported cumulative trend would resume the expected upward trend as the warehouse got caught up with returning materials to stock.

²³ BAAN is Benchmark's materials management system.

(Benchmark Ex. 131; Cree Ex. 165.) There is no indication that anyone at Cree investigated or asked anyone at Benchmark about delta's fluctuation prior to this time.

42. Cree's position as of June 12, 2015, was that Benchmark "shall either return the missing LED's [sic] listed as "Delta" or compensate Cree for the missing consigned inventory." (Cree Ex. 166.) By this point at least, Clemons realized that Cree expected payment for the scrapped LEDs, stating in an internal Benchmark e-mail thread later that day: "This is a potential \$1M write off if we cannot convince Cree that they were getting the correct data all along." (Cree Ex. 167.)

43. Benchmark presented an LED reconciliation presentation dated June 25, 2015, which included examples of production issues that Benchmark had reported to Cree as well as corrected reconciliation numbers. (Cree Ex. 210; Clemons Test. Jan. 25, 2018.) The presentation showed an XT-E final reconciliation number of 1,607,518 and an on-hand number of 395,022. It showed an XB-G/XB-E final LED number of 4,052,477 and an on-hand number of 199,598. Clemons worked with internal controllers and used BAAN inventory records and various data systems to get to this final reconciliation number of approximately 4 million XB-G/XB-E LEDs. (Clemons Test. Jan. 26, 2018.) The presentation included an updated slide, which was not presented to Cree because at

that time the parties had reached an impasse, noting a "0.8% attrition agreed to by Cree" for LEDs "dropped in the machines," which was adjusted in an updated table to "0.49%." (Cree Ex. 210; Clemons Test. Jan. 25, 2018.)

44. Benchmark communicated internally into June and July 2015 in a continued attempt to reconcile the numbers of scrapped LEDs. (Cree Exs. 167, 171.) In particular, Benchmark's then-current program manager described issues accounting for the near-finalized delta value, including attrition through two rework stations, scrapping reels with 300 LEDs or less, and missing materials in reels. (Cree Ex. 167.) Clemons testified that scrapping reels with 300 LEDs or less only occurred periodically at the end of work orders and disputed other parts of the program manager's email. (Clemons Test. Jan. 26, 2018.)²⁴ Clemons inquired into certain practices the program manager had made in her reporting but never received an answer. (Id.)

²⁴ It appears to this court that Benchmark's practice of scrapping reels in certain circumstances was not appropriate, even if, as Clemons testified, splicing together reels could raise quality concerns. Nevertheless, in the absence of a contractual agreement as to scrap rate, see infra II.A, or a showing that Benchmark understood that it would have to pay for scrapped LEDs, see infra II.C, this court merely notes that this practice seems to illustrate yet another failure of the parties to communicate as to appropriate standards in Benchmark's manufacturing process.

45. Benchmark returned materials to Cree in March 2014. The documentation for this material shipment includes two packing slips, a Benchmark proforma invoice, a Benchmark shipment instruction, a shipping document associated with the company "Glen Raven," and a Benchmark proof of delivery. (Benchmark Ex. 53.) The proforma invoice, dated March 10, 2014, is from Benchmark to Cree and contains three descriptive lines, each with a part number starting with XTEHVV, a Spanish Description of "Diodo emisor de luz" and an English Description of "diode." "Diodo emisor de luz" means "light-emitting diode" in English. The first line includes 156,554 listed in the quantity column; the second, 44,952; and the third, 223,626. The combined quantity of LEDs listed on the proforma invoice totals 425,132, which is more than the 395,022 Cree alleges Benchmark failed to return. The invoice is labeled with the number GSJ261024. The Glen Raven document includes a description: the first line reads 4 Pallets Assemblies 1997 [pounds], and the second line reads "-Invoice Nos. GSJ261024//GSJ261221//36." Cree signed this document in the "Received by Customer" section on March 13, 2014.

II. CONCLUSIONS OF LAW AND ANALYSIS

This court has diversity jurisdiction pursuant to 28 U.S.C. § 1332. The substantive law of North Carolina applies to the

claims in this case. Venue is proper pursuant to 28 U.S.C. § 1391.

A. Breach of Contract

This court first considers Cree's claim that Cree and Benchmark entered into an enforceable agreement of a half a percent maximum allowable scrap rate for LED components.

1. Applicable Law

"The elements of a claim for breach of contract are: (1) existence of a valid contract; and (2) breach of the terms of the contract." B.E.E. Int'l, Ltd. v. Hawes, 381 F. Supp. 2d 488, 493 (M.D.N.C. 2005), aff'd, 202 F. App'x 463 (Fed. Cir. 2006) (per curiam) (citing Poor v. Hill, 138 N.C. App. 19, 26, 530 S.E.2d 838, 843 (2000)). The parties' contract is governed by North Carolina's version of the Uniform Commercial Code ("UCC"). Under the UCC, "[a] contract for sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract." N.C. Gen. Stat. § 25-2-204(1); see also id. § 25-2-207(3). "Even though one or more terms are left open a contract for sale does not fail for indefiniteness if the parties have intended to make

a contract and there is a reasonably certain basis for giving an appropriate remedy." Id. § 25-2-204(3).

At the summary judgment stage, it was determined that Benchmark and Cree had an enforceable agreement, as evidenced by the signed and executed LOA, accompanying documents, and the parties' course of performance. Benchmark Elecs., Inc., 2018 WL 472819, at *9. It was also determined that the evidence then before the court created a genuine dispute of material fact as to whether the parties' conduct or communications showed that they entered into an agreement as to a scrap rate allowance and risk of loss. Id. at *10.

A court may consider the parties' course of performance,²⁵ course of dealing, or a particular usage of trade²⁶ to supplement or interpret a prior written agreement. Id. §§ 25-1-303(d), 25-2-202.

[T]he express terms of an agreement and any applicable course of performance, course of dealing, or usage of trade must be construed whenever reasonable as consistent with each other. If such a construction is unreasonable: (1) Express terms prevail over course of performance, course of dealing, and usage of trade; (2) Course of performance prevails over course of dealing and usage of trade; and (3) Course of dealing prevails over usage of trade.

Id. § 25-1-303(e). The Fourth Circuit has held that, under North Carolina law, a "well-established custom" may automatically be included in an agreement reached between parties. See In re

²⁵ "A 'course of performance' is a sequence of conduct between the parties to a particular transaction that exists if:

(1) The agreement of the parties with respect to the transaction involves repeated occasions for performance by a party; and

(2) The other party, with knowledge of the nature of the performance and opportunity for objection to it, accepts the performance or acquiesces in it without objection."

N.C. Gen. Stat. § 25-1-303(a).

²⁶ "A 'usage of trade' is any practice or method of dealing having such regularity of observance in a place, vocation, or trade as to justify an expectation that it will be observed with respect to the transaction in question. The existence and scope of such a usage must be proved as facts. If it is established that such a usage is embodied in a trade code or similar record, the interpretation of the record is a question of law." N.C. Gen. Stat. § 25-1-303(c).

Cotton Yarn Antitrust Litig., 505 F.3d 274, 279-80 (4th Cir.

2007) (holding that arbitration is a usage of trade in the textile industry where the parties' writings incorporated industry rules discussing arbitration and "numerous cases" described arbitration as standard in that industry and thus inferring that the parties' oral contracts included an agreement to arbitrate).

2. Writings, course of performance, and usage of Trade

Neither the RFQ nor the response to the RFQ includes a maximum allowable scrap rate above which Benchmark would be responsible to pay Cree. Cree's argument that the "Scrap (and other MOH)" line item in Benchmark's RFQ response "allocated to Cree the risk of a particular maximum scrap rate of LED components" is unavailing. (Cree's Proposed Findings of Fact and Conclusions of Law (Doc. 42) ¶ 27.) While Benchmark charged Cree a certain amount (\$0.15 per LED, which was reduced to \$0.10 per LED) for storage and handling of the LEDs, there is nothing in the response to the RFQ that purports to limit the scrap rate in the way that Cree alleges. And the LOA – the only document executed and signed by both parties – is silent as to a maximum allowable scrap rate. As Cree has already conceded, the parties never entered into a written agreement as to maximum allowable

scrap rate or risk of loss. See, e.g., Benchmark Elecs., Inc., 2018 WL 472819, at *9.

Lacking a written agreement, this court must determine whether Cree has proved the existence of such an agreement through the parties' oral discussions or through the parties' conduct or course of performance. Cree contends that yield and scrap targets are generally discussed at kickoff meetings, and in fact, that yield and scrap targets were discussed at such a meeting between senior Cree and Benchmark representatives in Guadalajara, Mexico. (Power Test. Jan. 24, 2018; Stevens Dep. 61:21-62:4, 63:4-22.) According to Stevens, at this meeting Cree received a "verbal handshake" from Benchmark that a half a percent scrap rate could be achieved. (See Stevens Dep. 63:4-22.) Clemons denies that during the meeting Cree informed him of a mandatory half a percent scrap rate above which Benchmark would be responsible for reimbursing Cree. (Clemons Test. Jan. 25, 2018.)

Cree also points to the June CMA draft, arguing that Benchmark's failure to mark up the Materials Consignment Agreement proves that Benchmark accepted the term allocating risk of loss to Benchmark for conforming consigned materials in its possession. (Cree's Trial Brief ("Cree's Br.") (Doc. 43) at

16; see also Cree Ex. 183, Ex. B ¶ 4.)²⁷ However, a later draft is noted with the description "needs to review." (Benchmark Ex. 52, Ex. B.) Moreover, Cree's representative expected a number of drafts to be exchanged before the final document was executed. And ultimately, a final CMA was never executed. Therefore, this court declines to heavily credit the contents of these drafts.

Cree also contends that Benchmark's reporting and its communications with Benchmark throughout the relationship proves that the parties agreed to a maximum allowable scrap rate of a half a percent above which Benchmark would be responsible for reimbursing Cree. (Cree's Br. (Doc. 43) at 15-16.) There is evidence that a target scrap rate of half a percent was communicated from Cree to Benchmark on several occasions. (See, e.g., Cree Exs. 124, 185.) Cree contends that when Benchmark exceeded this allowance several times over the course of the relationship, it "forgave" the obligation.

Cree may have proved that the parties agreed to a half a percent scrap rate as a goal or aspiration or even an expectation, and this court credits the undisputed testimony that scrap was at least discussed in the parties' kickoff

²⁷ All citations in this Memorandum Opinion and Order to documents filed with the court refer to the page numbers located at the bottom right-hand corner of the documents as they appear on CM/ECF.

meeting in Mexico. However, this court concludes, after evaluating all of the evidence before it, that Cree has not met its burden of proving that the parties' conduct or communications reflected the existence of a contractual agreement of a half a percent scrap rate above which there would be a financial liability and that this risk of loss was allocated to Benchmark. Cree's own witness characterized the consignment relationship as supplying LEDs to Benchmark at a "zero cost." (See Stevens Dep. 58:4-59:3.) Benchmark obviously benefited from this "zero cost." Cree also benefited from the "zero cost" in the form of a lower quote from Benchmark. (Id. at 61:15-19.) When production issues arose over the course of the relationship, it was in Cree's interest to work with Benchmark because scrap rates rolled into the financial cost model of the finished product. (Power Test. Jan. 24, 2018.) As Cree's witness testified, Cree was incentivized to keep those costs down because, ultimately, Cree was the one who was going to end up paying those costs. (Id.) The stoplight report describes the half a percent as a waste goal. ((Cree Ex. 185, CREE_00146892 (spreadsheet located on thumb drive, Cree Ex. 212).) And Cree never communicated its "forgiveness" of Benchmark's alleged contractual scrap exceedance to Benchmark. This court concludes that Benchmark would not have understood there to have been any

forgiveness or waiver as there was never a meeting of the minds as to a maximum allowable scrap rate in the first instance.

Additionally, Cree has not proven a relevant usage of trade. Cree's witnesses provided, at best, conflicting testimony as to relevant standards in the contract manufacturing industry. Stevens testified that in working with contract manufacturers, "we have always had the partnership to understand scrap," (see Stevens Dep. 40:8-15), and that scrap is manifested in several different ways in the price a contract manufacturer like Benchmark charges a customer like Cree in a contract manufacturing relationship, (see id. at 41:9-42:10). Cree had "used half a percent" scrap rate for LED components in other manufacturing arrangements. (See id. at 42:15-21.) Half a percent is a standard "target" in contract manufacturing. (See Power. Test Jan. 24, 2018.) But Power also testified that, typically, a target attrition rate, if it existed, would be outlined in the RFQ in the beginning of a project. (Power Test. Jan 25, 2018.) Here, it was not. And Benchmark's representative testified that, in his experience, targeted scrap goals were frequently discussed during the course of doing business, but not as related to financial liability. (Clemons Test. Jan. 26, 2018.)

Moreover, aside from a particular standard scrap goal, Cree put forward no evidence pertaining to financial liability for scrapped LEDs in the contract manufacturing industry beyond its reliance on the draft CMA. However, while "cover[ing] the same areas," each CMA is unique based on the "contract manufacturer's desire." (See Stevens Dep. 69:13-22.) Cree's representative admitted that Cree never invoiced contract manufacturers for scrapped LEDs in excess of its alleged rates, just as it had never invoiced Benchmark during this relationship. Lacking any evidence of a practice "having such regularity of observance in a place, vocation, or trade as to justify an expectation that it will be observed with respect to the transaction in question," N.C. Gen. Stat. § 25-1-303(c), this court declines to automatically impose such a term into the parties' agreement. See In re Cotton Yarn Antitrust Litig., 505 F.3d at 279-80.

For these reasons, Cree has not proven the existence of a contractual agreement of maximum scrap rate and risk of loss, and as a result, Benchmark cannot be found to have breached these terms.

B. Breach of the covenant of good faith and fair dealing

Contracting parties are subject to an implied covenant of good faith and fair dealing under both the UCC and North

Carolina common law. See N.C. Gen. Stat. § 25-1-304; Bicycle Transit Auth., Inc. v. Bell, 314 N.C. 219, 228, 333 S.E.2d 299, 305 (1985). "Because the covenant of good faith and fair dealing is implied in a contract, however, a claim for breach of that covenant typically is 'part and parcel' of a claim for breach of contract." Ada Liss Grp. v. Sara Lee Corp., No. 06CV610, 2010 WL 3910433, at *14 (M.D.N.C. Apr. 27, 2010) (quoting Murray v. Nationwide Mut. Ins. Co., 123 N.C. App. 1, 19, 472 S.E.2d 358, 368 (1996)). Courts may consider breach of good faith claims independently in limited situations where there is a special relationship between the parties. Id.

Here, Cree has put forward no evidence of a special relationship, and Cree's breach of contract counterclaim is coextensive with this claim and will not be treated as a separate claim. Because Cree's breach of contract claim fails, this claim also fails.

C. Unjust enrichment

Having determined that the parties did not have a contractual agreement as to scrap rate and risk of loss, this court must next address Cree's unjust enrichment claim. This claim is an alternate theory to Cree's breach of contract claim and is predicated on the same facts.

1. Applicable Law

In North Carolina, "unjust enrichment 'is a claim in quasi contract or contract implied in law' which arises when a party 'confers a benefit upon another which is not required by a contract either express or implied [in fact] or a legal duty [and] the recipient thereof is . . . unjustly enriched and [is] required to make restitution therefor.'" Ernst v. N. Am. Co. for Life & Health Ins., 245 F. Supp. 3d 680, 691 (M.D.N.C. 2017) (quoting M Series Rebuild, LLC v. Town of Mount Pleasant, 222 N.C. App. 59, 67, 730 S.E.2d 254, 260 (2012)) (alterations in original). "[T]he mere fact that one party was enriched, even at the expense of the other, does not bring the doctrine of unjust enrichment into play. There must be some added ingredients to invoke the unjust enrichment doctrine." Crump v. City of Hickory, 240 N.C. App. 602, 772 S.E.2d 873 (2015) (citation omitted).

To establish an unjust enrichment claim, a plaintiff must show that: "(1) plaintiff conferred a measurable benefit to defendant, (2) defendant knowingly and voluntarily accepted the benefit, and (3) the benefit was not given gratuitously." TSC Research, LLC v. Bayer Chems. Corp., 552 F. Supp. 2d 534, 540 (M.D.N.C. 2008) (citing Booe v. Shadrick, 322 N.C. 567, 570, 369

S.E.2d 554, 556 (1988)). As part of establishing that the benefit was not given gratuitously,

the plaintiff must show that it rendered the services at issue with an expectation of compensation. Britt v. Britt, 320 N.C. 573, 359 S.E.2d 467, 470 (1987); Jonson v. Sanders, 260 N.C. 291, 132 S.E.2d 582, 584 (1963). The burden rests upon the plaintiff to "show circumstances from which it might be inferred that the services were rendered and received with the mutual understanding that they were to be paid for [S]uch an inference is permissible when a person knowingly accepts from another services of value, or . . . under circumstances calculated to put a reasonable person on notice that the services are not gratuitous." Lindley v. Frazier, 231 N.C. 44, 55 S.E.2d 815, 816 (1949).

Metric Constructors, Inc. v. Bank of Tokyo-Mitsubishi, Ltd., 72 F. App'x 916, 921-22 (4th Cir. 2003) (alterations in original) (emphasis added). "The expectation of payment must arise at the time the alleged enrichment was rendered, and not thereafter." Volumetrics Med. Imaging, Inc. v. ATL Ultrasound, Inc., 243 F. Supp. 2d 386, 412 (M.D.N.C. 2003) (citing Twiford v. Waterfield, 240 N.C. 582, 585, 83 S.E.2d 548, 551 (1954)). "The law creates a presumption that an expectation of payment exists unless 'the services are rendered gratuitously or in discharge of some obligation.'" Id. (emphasis removed) (quoting Atl. Coast Line R.R. Co. v. State Highway Comm'n, 268 N.C. 92, 96, 150 S.E.2d 70, 73 (1966)).

2. Cree and Benchmark's understanding with respect to expectation of payment²⁸

Cree provided LEDs to Benchmark to incorporate into LED boards, which benefited Benchmark as a party to the ongoing business relationship. Benchmark disputes this benefit is measurable, but such dispute is not dispositive because Cree's

²⁸ An unjust enrichment claim is subject to a three-year statute of limitations. See N.C. Gen. Stat. § 1-52(1), (9); see also Christenbury Eye Ctr., P.A. v. Medflow, Inc., 370 N.C. 1, 7 n.4, 802 S.E.2d 888, 892 n.4 (2017); Doub v. Hauser, 256 N.C. 331, 337, 123 S.E.2d 821, 825 (1962) ("For indefinite and continuous service, without any definite arrangement as to time for compensation, payment may be required [as the services are rendered,]" and therefore the statute continually excludes the portion of the claim that is beyond the limitation.)).

This court finds that Cree did not send Benchmark any XT-E LEDs after May 2013. The parties agree that the transition from XT-E to XB-G and XB-E bulbs occurred around May 2013, and Benchmark's XT-E LED reconciliation was provided to Cree in May 2013. (See Cree Ex. 39.) Cree filed its answer and counterclaim on July 26, 2016, (Cree's Answer & Countercls. (Doc. 8), and Benchmark answered, asserting an affirmative defense of statute of limitations, (Benchmark's Reply to Countercl. (Doc. 11) at 10). Benchmark's inventory reconciliation reports to Cree, starting in June 2013, showed 43,389,500 XT-E LEDs in "receipts" (i.e., received LEDs), and never varied, except to decrease to 43,378,500 in July 2013. (Benchmark Ex. 55, CREE_00247369 (spreadsheet located on thumb drive, Benchmark Ex. 214).) Cree's delivery of LEDs occurred more or less continuously throughout their relationship, see Doub, 256 N.C. at 337, 123 S.E.2d at 825, and so the applicable statute of limitations excludes goods delivered beyond the three-year limit, that is, the 1,607,518 XT-E LEDs for which Cree seeks recovery.

Nevertheless, Benchmark did not argue this defense at trial, and in the alternative, this court has analyzed Cree's unjust enrichment claim on the merits for XT-E LEDs and finds that it fails for the same reasons as the claim for XB-G LEDs.

claim turns on the third element, specifically, what Cree has proved with respect to the parties' understanding as to expectation of payment with respect to scrapped LED bulbs.

Cree contends that it is entitled to recover the value of the consigned LEDs that Benchmark scrapped in excess of Cree's expectations and seeks recovery for 4,394,757 XB-G LED bulbs, the delta value provided in Benchmark's BEI Analysis 01-30-15 EOL Meeting 071715 report, (Cree Ex. 191, BEI00000217 (spreadsheet located on thumb drive, Cree Ex. 212)), and 1,607,518 XT-E LEDs, (Benchmark Ex. 55, CREE_00277824 (spreadsheet located on thumb drive, Benchmark Ex. 214)), which Benchmark reported to Cree starting in September 2013. Benchmark claims that Cree failed to demonstrate that the parties understood that the LEDs were provided with the expectation of payment and that such an expectation existed at the time of the alleged enrichment.

After carefully reviewing all of the evidence in the record, this court agrees that Cree has failed to prove that the LED bulbs were provided to Benchmark with a mutual understanding that Benchmark was expected to pay for scrapped LEDs, and that Benchmark has overcome any presumption or inference that such a payment was expected.

First, the LOA says nothing about Cree's right to collect payment for scrapped LEDs. In fact, the LOA says nothing about scrapped LEDs at all. Payment for LEDs and other components is discussed only in terms of Benchmark's ability to invoice Cree for components in certain circumstances. (Cree Ex. 182.)

Second, the communications between the parties during the ongoing relationship, taken as a whole, do not show that the parties expected Benchmark to pay for LEDs scrapped in excess of a certain rate as the enrichment occurred.

For Cree's part, although Cree employees at times knew that the scrap rate was more than a half a percent, Cree never invoiced Benchmark for scrapped LEDs throughout the course of the relationship. (See Stevens Dep. 156:9-14.) Stevens testified that Cree's typical practice was not to regularly invoice contract manufacturers, and Cree did not invoice Benchmark "[b]ecause we believed that Benchmark week over week was efforting to hit the .5 percent scrap target, was in many occasions meeting it, and over the life of the program, had accomplished it. It wasn't until the end [of the program] when we were trying to do the reconciliation of LEDs that we learned over 4 million LEDs were scrapped in addition to what we thought was scrapped." (See id. 156:9-157:18.) This testimony tends to show that Cree's expectation of payment did not arise until the

end of the relationship, not throughout the relationship as benefits were conferred and LEDs were consumed by Benchmark as part of its manufacturing process. This expectation is insufficient, see Volumetrics, 243 F. Supp. 2d at 412, to support a claim for unjust enrichment.

As to Benchmark's expectation, notwithstanding Clemons' testimony that he believed that the total cost of the LEDs was \$0.10 each,²⁹ Clemons and other Benchmark representatives saw

²⁹ The parties dispute Benchmark's knowledge of Cree's cost to produce LEDs and the value assigned to them by Cree. In response to what Cree perceived as a new legal theory put forth by Benchmark centered on LED value, Cree supplemented its pre-trial disclosures, (Cree's Suppl. Pre-Trial Disclosures (Doc. 48)), seeking to introduce what Cree characterized as rebuttal evidence: witnesses and shipping invoices showing Cree's internal transfer costs for LEDs. Benchmark moved to exclude the shipping invoices under Federal Rules of Civil Procedure 26(e)(1)(A), 26(a)(3)(B), and 37(c)(1). (Benchmark's Objs. to & Mot. to Exclude Cree's Suppl. Pre-Trial Disclosures (Doc. 49); Benchmark's Br. in Support of Mot. to Exclude Cree's Suppl. Pre-Trial Disclosures (Doc. 50).) During discovery, Benchmark had served an interrogatory for "All documents and correspondence that support or relate to the cost and/or price of the XT-E and XB-G LEDs." (Decl. of Rebecca K. Lindahl, Ex. 1 (Doc. 52-1 at 8); Decl. of Rebecca K. Lindahl, Ex. 2 (Doc. 52-2 at 6).) Cree objected to this interrogatory and apparently eventually produced some documents in response, but not these shipping invoices. At trial, the parties stipulated to the introduction of an internal Benchmark spreadsheet, showing data from some of these shipping invoices, to impeach Clemons' testimony that he never saw a cost other than other than \$0.10 associated with the LEDs. (Cree Ex. 213 (spreadsheet located on thumb drive, Cree Ex. 215).)

This court took the matter under advisement and now finds that the invoices were clearly responsive to Benchmark's interrogatory, are not merely rebuttal evidence, and should have

been disclosed without objection under Rule 26. Moreover, the late disclosure violated Rule 26(a)(3)(B) because it occurred less than thirty days before the originally scheduled trial date and violated Rule 26(e)(1)(A) because it appears that Cree was aware of the existence of these invoices and did not supplement its incomplete response to Benchmark's interrogatory until it attempted to put forth this evidence as rebuttal evidence.

"If a party fails to provide information or identify a witness as required by Rule 26(a) or (e), the party is not allowed to use that information or witness to supply evidence . . . at a trial, unless the failure was substantially justified or is harmless." Fed. R. Civ. P. 37(c)(1). "[I]n exercising its broad discretion to determine whether a nondisclosure of evidence is substantially justified or harmless [under Rule 37(c)(1)], a district court should be guided by the following factors: (1) the surprise to the party against whom the evidence would be offered; (2) the ability of that party to cure the surprise; (3) the extent to which allowing the evidence would disrupt the trial; (4) the importance of the evidence; and (5) the nondisclosing party's explanation for its failure to disclose the evidence." S. States Rack & Fixture, Inc. v. Sherwin-Williams Co., 318 F.3d 592, 597 (4th Cir. 2003).

Under this five-factor analysis, this court finds that the evidence should be excluded. Benchmark was surprised by this evidence: while Benchmark had access to at least some of the information contained in at least some of the shipping invoices, as evidenced by the spreadsheet used to impeach Clemons, that information is different in scope and substance than what appears to be a fairly complete set of Cree shipping invoices during the timeframe of the relationship. Allowing additional time for Benchmark to review the several hundred invoices in order to cure the surprise could potentially have disrupted the trial, as the trial date was already set and only approximately two weeks away when this disclosure occurred. Moreover, a central issue in this case is how to value the LEDs for the purpose of any damages or restitution awards. Cree chose not to put forward any evidence in its case in chief to support its proposed LED values of \$0.5684 for XT-E LEDs and \$0.3767 for XB-G LEDs, beyond the very general testimony of its witnesses, even though such evidence could have supported Cree's requested damages. Like in Southern States, that fact that the shipping invoices were potentially helpful to Cree's case "also points out why it should have been disclosed in a timely manner to

various monetary amounts associated with various types of LEDs throughout the course of the relationship. (See, e.g., Cree Ex. 6 (Cree communicating a "high volume price" of \$0.15 per LED to Benchmark); Cree Ex. 124 (Clemons inquiring about a freight value in the \$0.75 to \$0.83 range and Stevens confirming that the "LED cost should remain \$0.10 each for inventory value"); Cree Ex. 213, BEI00072101 (internal Benchmark reporting with "unit pricing" ranging from \$0.002222 to \$0.71 for LEDs); Benchmark Ex. 8 (\$0.10 each, with an extended cost of zero).) Despite Benchmark's misunderstanding of the total value of each LED, this court finds persuasive Clemons' testimony that payment was not expected for scrapped LEDs, which is consistent with the documents introduced into evidence. Indeed, Benchmark's first documented instance of potential expectation of payment for the LEDs seems to have occurred as the final LED reconciliation was taking place. (See Cree Ex. 167.) This understanding was

[Benchmark]." 318 F.3d at 599. Finally, Cree's misunderstanding of the responsiveness of the documents does not justify its late disclosure.

Benchmark's motion will be granted, and thus Cree Ex. 206 will be excluded. However, even if the evidence had been admitted, no change would result. This evidence would have been relevant to the court's determination of damages or restitution had Cree prevailed on any of its claims. Because Cree fails to prove its breach of contract or unjust enrichment claim, and Benchmark has proved its affirmative defense on its conversion claim, the need to calculate damages or restitution is obviated.

reasonable given the parties' discussions concerning the scrap rate as a target or goal, the fact that the written agreement between the parties discussed only the way in which Benchmark, not Cree, would be paid for certain components, and the fact that Cree never communicated its alleged position as to financial liability as to either the XT-E or XB-G LEDs until 2015 after manufacturing had ended.

As a result, Cree has failed to prove that both parties understood that the consigned LEDs were provided to Benchmark with the expectation of payment, and thus has failed to prove its prima facie claim of unjust enrichment as to either the XT-E or XB-G LEDs.

D. Conversion

The elements of the tort of conversion are: "(1) the unauthorized assumption and exercise of the right of ownership; (2) over the goods or personal property; (3) of another; and (4) to the exclusion of the rights of the true owner." B.E.E. Int'l, Ltd., 381 F. Supp. 2d at 493 (citing Peed v. Burleson's, Inc., 244 N.C. 437, 439, 94 S.E.2d 351, 353 (1956)). "[W]hen the defendant lawfully obtains possession or control and then exercises unauthorized dominion or control over the property, demand and refusal become necessary elements of the tort." Stratton v. Royal Bank of Canada, 211 N.C. App. 78, 83, 712

S.E.2d 221, 227 (2011) (citations omitted). Proof of the surrender of the chattel is a complete defense to a conversion claim. Herring v. Creech, 241 N.C. 233, 237, 84 S.E.2d 886, 889 (1954).

Here, no one disputes that Cree owned the XT-E LED bulbs and Benchmark lawfully obtained possession of them. Cree alleges that Benchmark retained and refused to return 395,022 XT-E bulbs. Benchmark asserts the complete defense of surrender of the chattel, pointing to documents that it contends prove that the XT-E bulbs in question were returned to Cree in March 2014. (Benchmark Ex. 53.) The documents for Benchmark's shipment include a proforma invoice with an invoice number of GSJ261024, dated March 10, 2014, from Benchmark to Cree and containing three quantities of XT-E LEDs, totaling 425,132. A Benchmark shipment instruction also dated March 10, 2014, and including a matching invoice number GSJ261024, notes that one pallet is to be shipped to Cree. The shipper's documentation describes four pallet assemblies that were delivered to Cree, including invoice GSJ261024, and signed for by Cree on March 13, 2014.

In response, Cree's witness David Power³⁰ testified that Cree was not able to locate the LEDs. (Power Test. Jan. 24,

³⁰ Power stated that Stevens would be the expert in this area, (see Power Test. Jan. 24, 2018), but Stevens had no

2018.) He stated that the documents Benchmark provided are not probative of LED components because they also describe other types of materials, including LED assembly boards, and LEDs are not shipped on pallets except where very large quantities are involved. (Power Test. Jan. 24, 2018.)

Cree did not address Benchmark's invoice describing 425,132 X-TE LEDs or Cree's signing of a document with this matching invoice number accepting delivery of the goods described. Cree also does not dispute that this shipment, if it did contain LEDs, would be the LEDs that are generally the subject of its conversion claim, notwithstanding the fact that the 425,132 X-TE LEDs listed in the invoice is greater than the 395,022 that are the subject of its conversion claim.

Benchmark continued to report a value in the XT-E "on hand" table after March 2014. (See, e.g., Cree Ex. 191, BEI00000217 (spreadsheet located on thumb drive, Cree Ex. 212).) Benchmark asserts that it froze the report at the end of the XT-E process in mid-2013 and that when the on-hand LEDs were sent back in March 2014, Benchmark did not update the report. (Clemons Test. Jan. 25, 2018.) This court considers this evidence as weighing against Benchmark's defense but ultimately credits the shipping

knowledge of whether Cree received XT-E bulbs from Benchmark in March 2014, (see Stevens Dep. 265:6-21).

documentation more heavily. Based on all of the evidence presented, this court concludes that Benchmark has carried its burden to show that Benchmark returned the XT-E LEDs that Cree claims Benchmark converted.³¹

³¹ Although neither party addressed this issue in briefing or at trial, Cree's conversion claim may also be barred by the economic loss rule, which provides that "[o]rdinarily, a breach of contract does not give rise to a tort action by the promisee against the promisor." Legacy Data Access, Inc. v. Cadrillion, LLC, 889 F.3d 158, 164 (4th Cir. 2018) (alteration in original) (quoting N.C. State Ports Auth. v. Lloyd A. Fry Roofing Co., 294 N.C. 73, 81, 240 S.E.2d 345, 350 (1978)). As the Fourth Circuit recently outlined, under North Carolina law:

A "tort action must be grounded on a violation of a duty imposed by operation of law," not a violation of a duty arising purely from "the contractual relationship of the parties." Thus, a "tort action does not lie against a party to a contract who simply fails to properly perform the terms of the contract." "It is the law of contract," not tort law, "which defines the obligations and remedies of the parties in such a situation." Accordingly, "North Carolina law requires" courts "to limit plaintiffs' tort claims to only those claims which are 'identifiable' and distinct from the primary breach of contract claim."

Id. (citations omitted).

Here, Benchmark gained lawful possession of Cree's bulbs as part of the parties' agreement for Benchmark to manufacture LED boards for Cree. An obligation to return unused inventory would stem from that contractual relationship, not from "a duty imposed by operation of law." Id. If Benchmark had an independent legal duty toward the storage of the unused LEDs, then Benchmark would have been obligated "to exercise ordinary care to protect the [property] from negligent loss, damage, or destruction." Id. at 166 (citation omitted). Nonetheless, neither party asserted this theory, and this court concludes that Benchmark has showed in any case that it surrendered the chattel at issue in Cree's conversion claim.

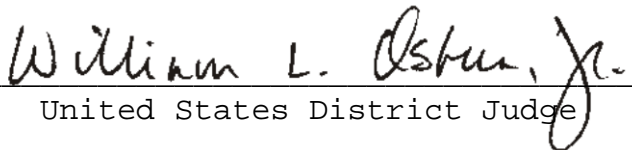
III. CONCLUSION

For the reasons set forth herein, **IT IS HEREBY ORDERED** that Cree's counterclaims for breach of contract (first claim for relief), breach of the covenant of good faith and fair dealing (second claim for relief), unjust enrichment (fifth claim for relief, in the alternative), and conversion as to the XT-E LED bulbs (fourth claim for relief) are **DISMISSED WITH PREJUDICE**.

IT IS FURTHER ORDERED that Benchmark's motion to exclude (Doc. 49) is **GRANTED**.

A judgment consistent with this Memorandum Opinion and Order will be entered contemporaneously herewith.

This the 27th day of June, 2018.


United States District Judge